

In the claims:

Please amend the claims as follows:

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1. (Cancel) A method for screening compounds inhibiting signal transduction through inflammatory cytokines, the method comprising the steps of:
 - (a) contacting a test sample with TAK1 and TAB1;
 - (b) detecting binding between the TAK1 and the TAB1; and
 - (c) selecting a compound inhibiting the binding.
 2. (Currently amended) The method of claim + 41, wherein the TAK1 and/or the TAB1 is fused with a peptide.
 3. (Currently amended) The method of claim + 41, wherein the TAK1 or the TAB1 is linked to a support.
 4. (Currently amended) The method of claim + 41, wherein a label is attached to the TAK1 or the TAB1 and ~~wherein~~ the binding is detected by detecting or measuring the label.
 5. (Currently amended) The method of claim + 41, wherein the binding is detected by detecting or measuring the TAB1 bound to the TAK1 with a primary antibody against TAB1 or a primary antibody against ~~the~~ a peptide fused with the TAB1.
 6. (Currently amended) The method of claim + 41, wherein the binding is detected by detecting or measuring the TAK1 bound to the TAB1 with a primary antibody against TAK1 or a primary antibody against ~~the~~ a peptide fused with the TAK1.
 7. (Currently amended) The method of claim + 41, wherein the binding is detected by detecting or measuring the TAB1 bound to the TAK1 with a primary antibody against the TAB1 or a primary antibody against ~~the~~ a peptide fused with TAB1, and a secondary antibody against the primary antibody.

8. (Currently amended) The method of claim ~~4~~ 41, wherein the binding is detected by detecting or measuring the TAK1 bound to the TAB1 with a primary antibody against TAK1 or a primary antibody against ~~the~~ a peptide fused with the TAK1, and a secondary antibody against the primary antibody.

9. (Currently amended) The method of claim ~~5~~ 7, wherein the primary antibody or the secondary antibody is labeled with a radioisotope, enzyme, or fluorescent substance.

10. (Currently amended) The method of claim 2, wherein the binding is detected ~~with, as an index,~~ as a change in the expression level of a reporter gene which is activated in response to the binding.

11. (Currently amended) The method of claim 10, wherein the reporter gene ~~is~~ encodes luciferase, chloramphenicol acetyltransferase, green fluorescent protein, or β -galactosidase.

12-26. (Withdrawn)

27. (Currently amended) The method of claim ~~4~~ 41, wherein the inflammatory cytokine is IL-1, TNF, IL-10, or IL-6.

41. (New) A screening method comprising:

- (a) providing a sample comprising a TAK1 and a TAB1;
- (b) contacting the sample with a compound;
- (c) detecting binding between the TAK1 and the TAB1;
- (d) selecting the compound if binding between the TAK1 and TAB1 is inhibited in the sample compared to a control; and

(e) testing the selected compound to determine whether it inhibits expression of an inflammatory cytokine in a cell or cell-free system that comprises a TAK1, a TAB1, and a gene encoding the inflammatory cytokine,

wherein the TAK1 of (a) is selected from the group consisting of

- (i) a protein comprising amino acids 76 to 303 of SEQ ID NO:2;
- (ii) a protein that binds to the TAB1 of (a) and comprises amino acids 76-303 of SEQ ID NO:2, with one to twenty amino acids substituted, deleted, and/or added; and
- (iii) a protein that binds to the TAB1 of (a) and comprises an amino acid sequence encoded by a DNA sequence that hybridizes with the complement of nucleotides 408 to 1091 of SEQ ID NO:1 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide; and

wherein the TAB1 of (a) is selected from the group consisting of

- (iv) a protein comprising amino acids 437 to 504 of SEQ ID NO:4;
- (v) a protein that binds to the TAK1 of (a) and comprises amino acids 437-504 of SEQ ID NO:4, with one to twenty amino acids substituted, deleted, and/or added; and
- (vi) a protein that binds to the TAK1 of (a) and comprises an amino acid sequence encoded by a DNA that hybridizes with the complement of nucleotides 1338 to 1541 of SEQ ID NO:3 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide.

42. (New) The method of claim 41, wherein the TAK1 of (a) comprises amino acids 76 to 303 of SEQ ID NO:2.

43. (New) The method of claim 41, wherein the TAK1 of (a) is a protein that binds to the TAB1 of (a) and comprises amino acids 76-303 of SEQ ID NO:2, with one to twenty substitutions, deletions, and/or additions.

44. (New) The method of claim 41, wherein the TAK1 of (a) is a protein that binds to the TAB1 of (a) and comprises amino acids 76-303 of SEQ ID NO:2, with one to ten substitutions, deletions, and/or additions.

45. (New) The method of claim 41, wherein the TAK1 of (a) is a protein that binds to the TAB1 of (a) and comprises amino acids 76-303 of SEQ ID NO:2, with one or two substitutions, deletions, and/or additions.

46. (New) The method of claim 41, wherein the TAK1 of (a) is a protein that binds to the TAB1 of (a) and comprises an amino acid sequence encoded by a DNA that hybridizes with the complement of nucleotides 408 to 1091 of SEQ ID NO:1 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide.

47. (New) The method of claim 41, wherein the TAK1 of (a) is a protein that binds to the TAB1 of (a) and comprises an amino acid sequence that is encoded by a DNA that hybridizes with the complement of nucleotides 408 to 1091 of SEQ ID NO:1 under washing conditions of 60°C, 0.1 x SSC, and 0.1% sodium dodecyl sulfate.

48. (New) The method of claim 41, wherein the TAB1 of (a) comprises the amino acids 437 to 504 of SEQ ID NO:4.

49. (New) The method of claim 41, wherein the TAB1 of (a) is a protein that binds to the TAK1 of (a) and comprises amino acids 437-504 of SEQ ID NO:4, with one to twenty amino acids substituted, deleted, and/or added.

50. (New) The method of claim 41, wherein the TAB1 of (a) is a protein that binds to the TAK1 of (a) and comprises amino acids 437-504 of SEQ ID NO:4, with one to ten amino acids substituted, deleted, and/or added.

51. (New) The method of claim 41, wherein the TAB1 of (a) is a protein that binds to the TAK1 of (a) and comprises amino acids 437-504 of SEQ ID NO:4, with one or two amino acids substituted, deleted, and/or added.

52. (New) The method of claim 41, wherein the TAB1 of (a) is a protein that binds to the TAK1 of (a) and comprises an amino acid sequence encoded by a DNA that hybridizes with the complement of nucleotides 1338 to 1541 of SEQ ID NO:3 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide.

53. (New) The method of claim 41, wherein the TAB1 of (a) is a protein that binds to the TAK1 of (a) and comprises an amino acid sequence encoded by a DNA that hybridizes with the complement of nucleotides 1338 to 1541 of SEQ ID NO:3 under washing conditions of 60°C, 0.1 x SSC, and 0.1% sodium dodecyl sulfate.

54. (New) The method of claim 41, wherein the inflammatory cytokine is IL-1.

55. (New) The method of claim 41, wherein the inflammatory cytokine is TNF.

56. (New) The method of claim 41, wherein the inflammatory cytokine is IL-6.

57. (New) The method of claim 41, wherein the inflammatory cytokine is IL-10.

58. (New) The method of claim 41, wherein step (e) comprises contacting the cell or cell-free system with a substance that induces inflammation.

59. (New) The method of claim 58, wherein the substance is a lipopolysaccharide or an inflammatory cytokine.

60. (New) The method of claim 58, wherein the substance is IL-1 or TNF.

61. (New) A screening method comprising
- (a) identifying a compound as an inhibitor of inflammatory cytokine activity;
 - (b) providing a sample comprising a TAK1 and a TAB1;
 - (c) contacting the sample with the compound;
 - (d) detecting binding between the TAK1 and the TAB1; and
 - (e) selecting the compound if binding between the TAK1 and TAB1 is inhibited in the sample compared to a control,

wherein the TAK1 is selected from the group consisting of

- (i) a protein comprising amino acids 76 to 303 of SEQ ID NO:2;
- (ii) a protein that binds to the TAB1 and comprises amino acids 76-303 of SEQ ID NO:2, with one to twenty amino acids substituted, deleted, and/or added; and
- (iii) a protein that binds to the TAB1 and comprises an amino acid sequence encoded by a DNA sequence that hybridizes with the complement of nucleotides 408 to 1091 of SEQ ID NO:1 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide; and

wherein the TAB1 is selected from the group consisting of

- (iv) a protein comprising amino acids 437 to 504 of SEQ ID NO:4;
- (v) a protein that binds to the TAK1 and comprises amino acids 437-504 of SEQ ID NO:4, with one to twenty amino acids substituted, deleted, and/or added; and
- (vi) a protein that binds to the TAK1 and comprises an amino acid sequence encoded by a DNA that hybridizes with the complement of nucleotides 1338 to 1541 of SEQ ID NO:3 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide.

62. (New) The method of claim 61, wherein the inflammatory cytokine is TNF, IL-6, or IL-10.

63. (New) A screening method comprising

(a) providing a sample comprising a TAK1 and a TAB1;
(b) contacting the sample with a compound;
(c) detecting binding between the TAK1 and the TAB1;
(d) selecting the compound if binding between the TAK1 and TAB1 is inhibited in the sample compared to a control; and

- (e) testing whether the selected compound inhibits
(i) inflammation in an animal, or
(ii) inflammatory cytokine expression in an animal,

wherein the TAK1 is selected from the group consisting of

- (1) a protein comprising amino acids 76 to 303 of SEQ ID NO:2;
(2) a protein that binds to the TAB1 and comprises amino acids 76-303 of SEQ ID NO:2, with one to twenty amino acids substituted, deleted, and/or added; and
(3) a protein that binds to the TAB1 and comprises an amino acid sequence encoded by a DNA sequence that hybridizes with the complement of nucleotides 408 to 1091 of SEQ ID NO:1 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide; and

wherein the TAB1 is selected from the group consisting of

- (4) a protein comprising amino acids 437 to 504 of SEQ ID NO:4;
(5) a protein that binds to the TAK1 and comprises amino acids 437-504 of SEQ ID NO:4, with one to twenty amino acids substituted, deleted, and/or added; and
(6) a protein that binds to the TAK1 and comprises an amino acid sequence encoded by a DNA that hybridizes with the complement of nucleotides 1338 to 1541 of SEQ ID NO:3 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide.

64. (New) The method of claim 63, wherein step (e) comprises administering to the animal a lipopolysaccharide or an inflammatory cytokine.

65. (New) The method of claim 63, wherein the inflammatory cytokine is IL-1, TNF, IL-6, or IL-10.

66. (New) The method of claim 64, wherein the inflammatory cytokine administered to the animal is IL-1 or TNF.

67. (New) A screening method comprising:

- (a) providing a sample comprising a TAK1 and a TAB1;
- (b) contacting the sample with a compound;
- (c) detecting binding between the TAK1 and the TAB1;
- (d) selecting the compound if binding between the TAK1 and TAB1 is inhibited in the sample compared to a control; and
- (e) identifying the selected compound as an inhibitor of inflammatory cytokine activity,

wherein the TAK1 of (a) is selected from the group consisting of

- (i) a protein comprising amino acids 76 to 303 of SEQ ID NO:2;
- (ii) a protein that binds to the TAB1 of (a) and comprises amino acids 76-303 of SEQ ID NO:2, with one to twenty amino acids substituted, deleted, and/or added; and
- (iii) a protein that binds to the TAB1 of (a) and comprises an amino acid sequence encoded by a DNA sequence that hybridizes with the complement of nucleotides 408 to 1091 of SEQ ID NO:1 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide; and

wherein the TAB1 of (a) is selected from the group consisting of

- (iv) a protein comprising amino acids 437 to 504 of SEQ ID NO:4;
- (v) a protein that binds to the TAK1 of (a) and comprises amino acids 437-504 of SEQ ID NO:4, with one to twenty amino acids substituted, deleted, and/or added; and
- (vi) a protein that binds to the TAK1 of (a) and comprises an amino acid sequence encoded by a DNA that hybridizes with the complement of nucleotides 1338 to 1541 of SEQ ID NO:3 under washing conditions of 42°C, 5 x SSC, 0.1% sodium dodecyl sulfate, and 50% formamide.